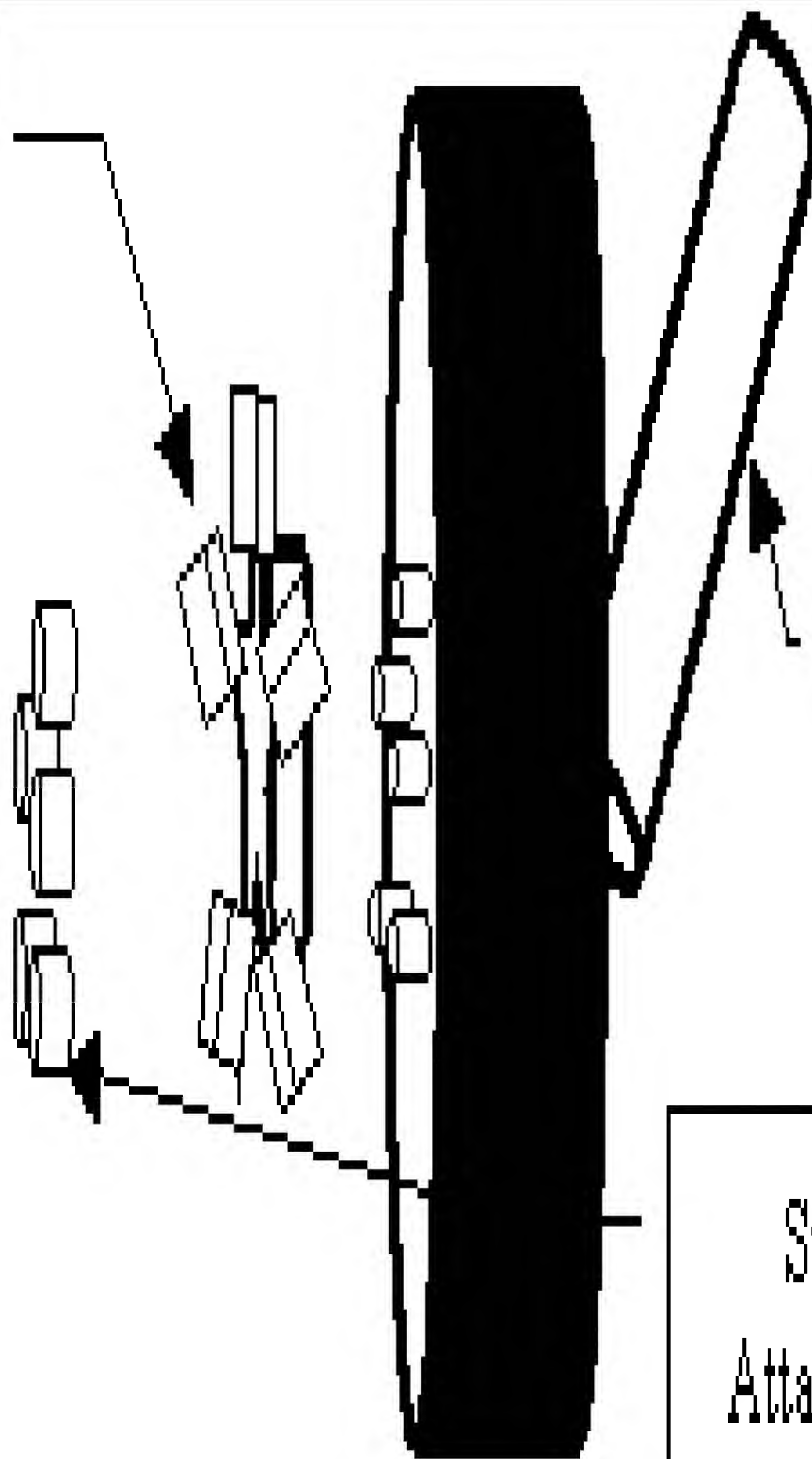


Aircraft  
Wheel Pre-  
Spin Rotor



Typical  
Aircraft  
Landing Gear

Standard Wheel  
Attachment Hardware

FIGURE 1: EXAMPLE OF ONE METHOD FOR INCORPORATING THE AERODYNAMIC EFFECTS NEEDED FOR WHEEL SPIN-UP

# AIRCRAFT WHEEL PRE-SPIN ROTOR

## PERFORMANCE PREDICTION

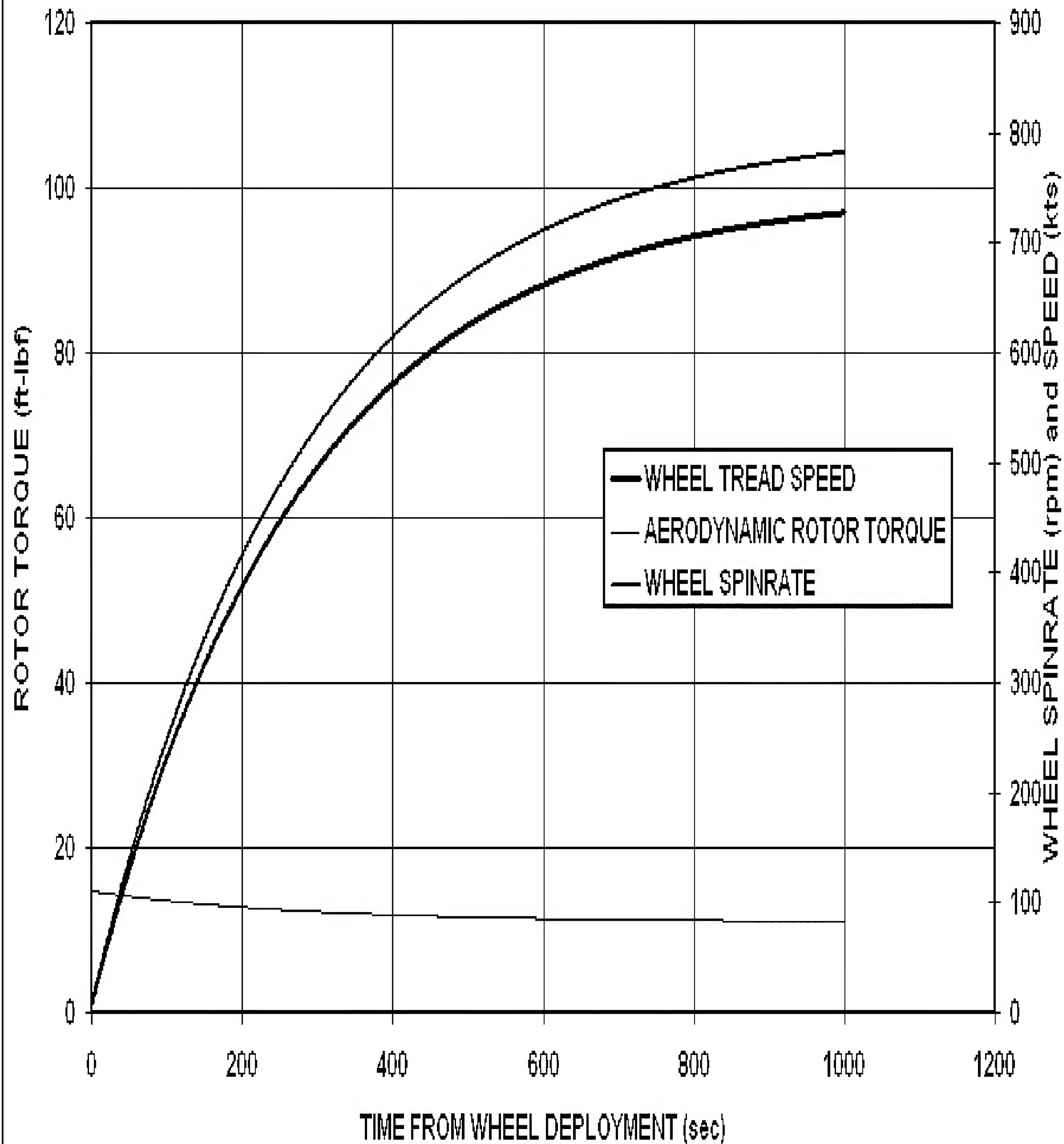
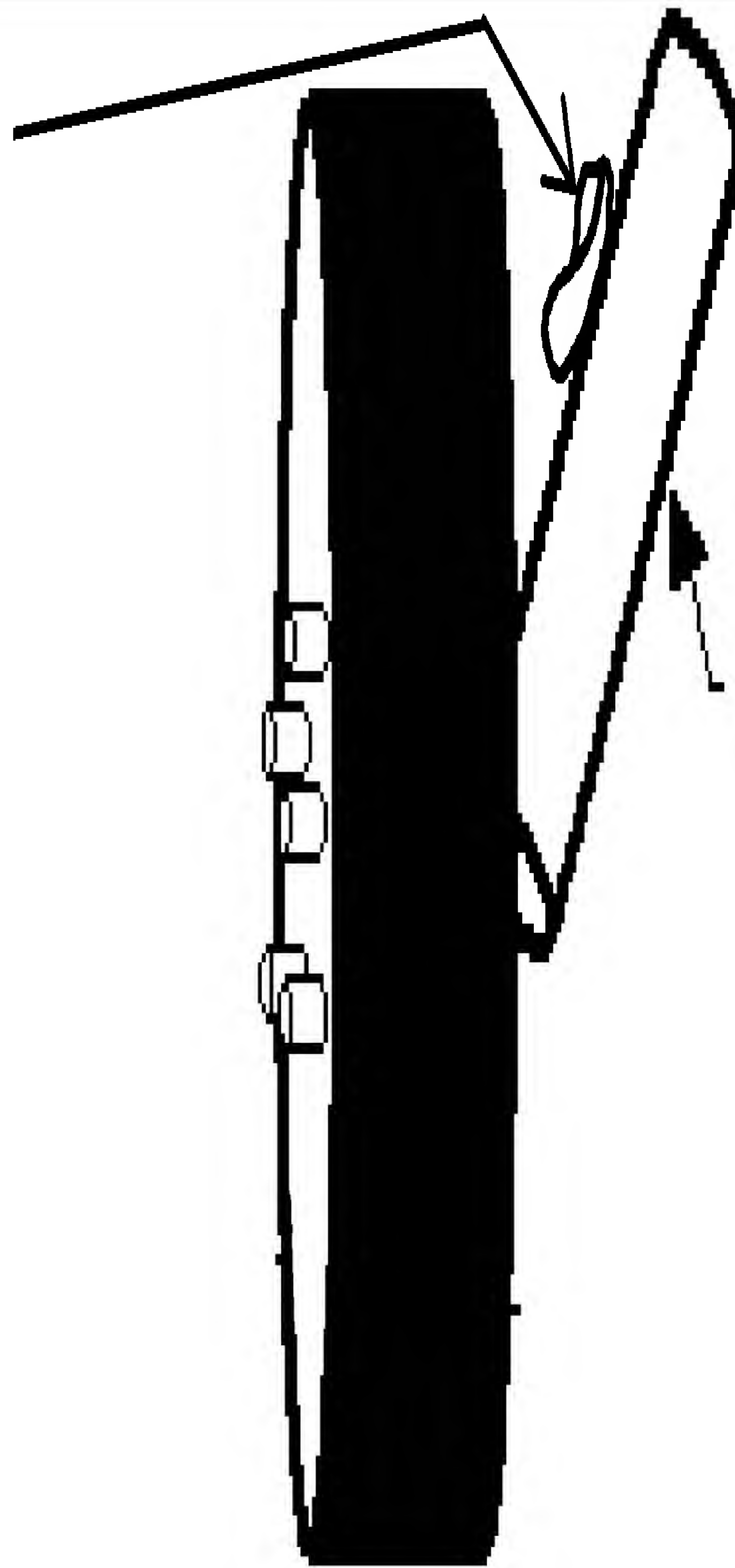


FIGURE 2: EXAMPLE OF PREDICTED WHEEL ROTATIONAL RESPONSE AS A FUNCTION OF WHEEL SIZE, ROTOR AERODYNAMICS, AXLE FRICTION, ETC.

**AIRCRAFT WHEEL  
PRE-SPIN CONTOUR  
CUP**



Typical  
Aircraft  
Landing Gear

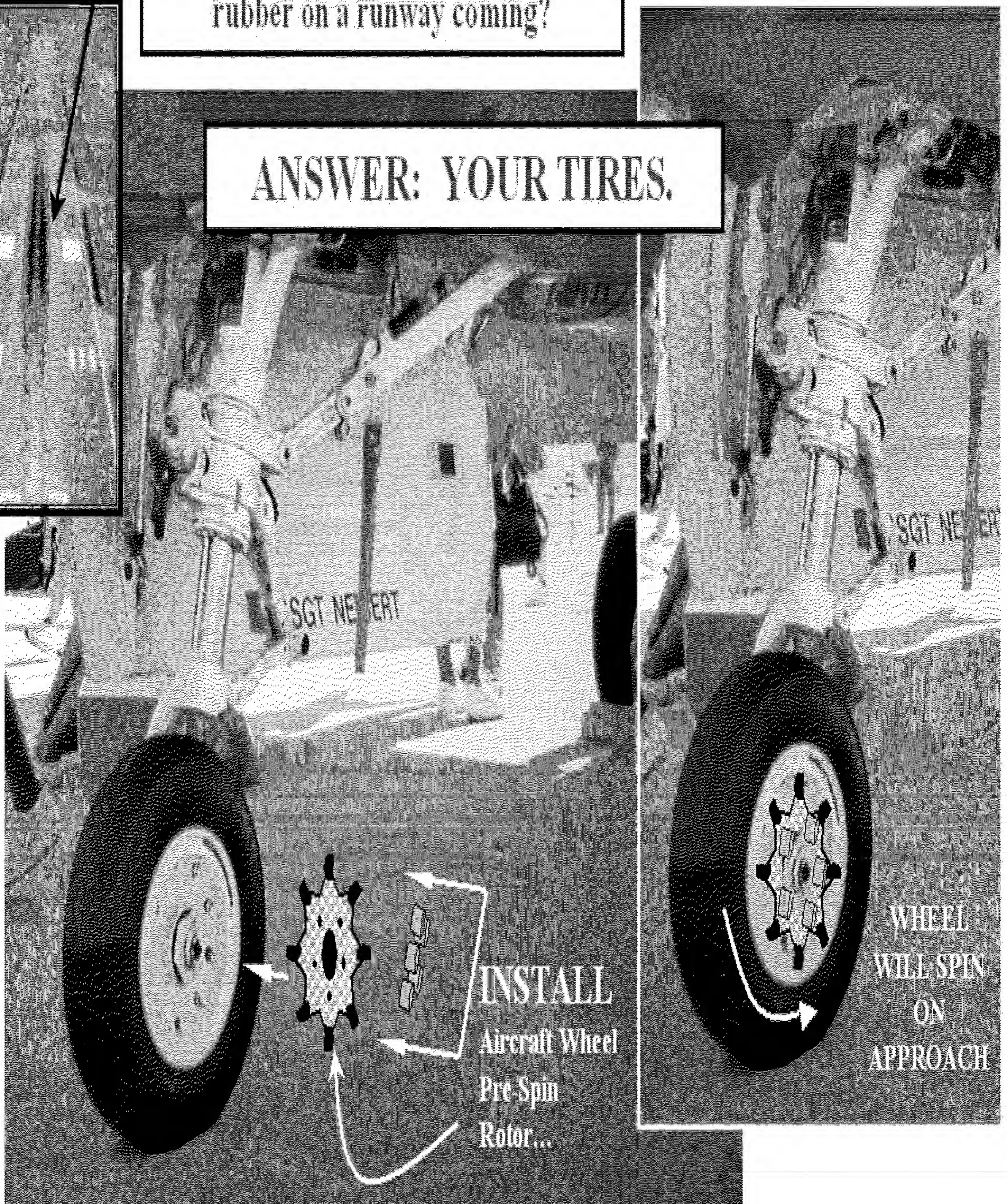
**FIGURE 3: EXAMPLE OF STATIC "CUP" METHOD FOR INCORPORATING  
THE AERODYNAMIC EFFECTS NEEDED FOR WHEEL SPIN-UP**



FIGURE 4: DEPICTION OF THE PROBLEM AND THE WHEEL SPIN-UP ROTOR

QUESTION: From where is all that rubber on a runway coming?

ANSWER: YOUR TIRES.



INSTALL  
Aircraft Wheel  
Pre-Spin  
Rotor...

WHEEL  
WILL SPIN  
ON  
APPROACH